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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,831	09/18/2001	Thomas H. Baum	510-CIP	8827
7590	02/26/2004		EXAMINER	
Oliver A. Zitzmann ATMI, Inc. 7 Commerce Drive Danbury, CT 06810			NAZARIO GONZALEZ, PORFIRIO	
			ART UNIT	PAPER NUMBER
			1621	

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

10P

Office Action Summary	Application No.	Applicant(s)
	09/954,831	BAUM ET AL.
	Examiner Porfirio Nazario-Gonzalez	Art Unit 1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 05 December 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2,4-11,16,19,20,22,23,31,39,43-51,53,55 and 61-66 is/are rejected.
- 7) Claim(s) 3,12-15,17,18,21,24-30,40-42,52,54 and 56-60 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 September 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-42, in Paper filed December 05, 2003 is acknowledged. Applicant's arguments are found persuasive and, therefore, the restriction requirement is withdrawn by the Examiner.

Claim Objections

2. Claim 60 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 57 recites Y(Nme₂)₃ as the metalloamide source reagent. However, claim 60, which depends on claim 57, recites Hf(Nme₂)₄ as the metalloamide source reagent and Si(Nme₂)₃Cl as the aminosilane source reagent compound. Please correct.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 31 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It appears that some text is missing at the end of the claim. The last line ends the following way "n is from 1-6; and". Further note that the claim fails to end with a period (.). Please clarify and correct.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1, 5-8, 10, 11, 19, 39, 43-51, 53, 55 and 61-66 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent No. 6,159,855. The '855 patent discloses metalloamide compounds useful in CVD. Further, the '855 patent discloses $\text{Hf}[\text{N}(\text{Et})_2]_4$, $\text{Zr}[\text{N}(\text{Et})_2]_4$ and $\text{Zr}[\text{N}(\text{Me})_2]_4$. See columns 4-12 and drawing.

7. Claims 1, 11, 39, 43, 44, 65 and 66 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 5,583,205. The '205 patent discloses the compound $\text{Er}\{\text{N}[\text{Si}(\text{CH}_3)_3]_2\}_3$ used as a source for MOCVD of Erbium layers on a silica coated substrate. See Example 3.

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8. Claims 20, 22 and 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 5,593,741. The '741 patent discloses $\text{SiH}[\text{N}(\text{Me})_2]_3$ and $\text{SiH}[\text{N}(\text{Et})_2]_3$ which are useful in CVD processes. See column 4, lines 30-39.

9. Claims 1, 2, 4, 5 and 39 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 6,015,917. The '917 patent discloses tantalum amide precursors useful in CVD processes. The '917 patent particularly discloses $\text{Ta}(\text{NMeEt})_5$.

10. Claims 1, 43 and 44 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 5,139,825. The '825 patent discloses the compound $\text{Ti}[\text{N}(\text{CH}_3)_2]_4$ useful as a precursor for CVD process. See Example 1.

11. Claims 1 and 39 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Linde et al., Z. anorg. allg. Chem., Vol. 409, pp. 199-214 (1974). The Linde et al. article disclose compounds of the formulas $\text{M}(\text{NH}_2)_2$ where $\text{M} = \text{Eu}, \text{Yb}$ and $\text{M}(\text{NH}_2)_3$ where $\text{M} = \text{La}, \text{Y}, \text{Yb}$. See Tables 3 and 6.

12. Claims 1, 2, 5, 6 and 39 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Bradley et al., J. Chem. Soc., 1960, pp. 3857-3861, cited by Applicants. The Bradley et al. article disclose compounds of the formula $\text{M}(\text{NR}_2)_4$ where $\text{M} = \text{Ti}, \text{Zr}, \text{Hf}$ and R is $\text{Me}, \text{Et}, \text{n-Pr}$, or i-Bu . The article also disclose $\text{Ti}(\text{piperidino})_4$. See Table 1.

13. Claims 1, 2, 5, and 39 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Bradley et al., Canadian Journal of Chemistry, Vol. 40, No. 7, pp. 1355-1360 (1962), cited by Applicants. The Bridley et al. article discloses compounds of the formula TaX_5 wherein $\text{X} = \text{NMe}_2, \text{NEt}_2, \text{NPr}_2^n, \text{NBu}_2^n$, and NMeBu^n . The article also discloses pentakis(piperidino)-tantalum. See experimental section.

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 1, 2, 5-11, 16, 19 and 39 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 8-12, 16, 37 and 87-91 of copending Application No. 09/823,196. Although the conflicting claims are not identical, they are not patentably distinct from each other because although the claims of the '196 application are narrow in scope with respect to the metal moiety, the subject matter recited in said claims is also claimed in the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

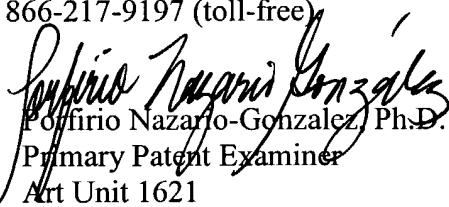
Allowable Subject Matter

16. Claims 17, 18, 21, 24-30, 40-42, 52, 54 and 56-60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Porfirio Nazario-Gonzalez whose telephone number is 571-272-0641. The examiner can normally be reached on Mon.-Fri. (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)


Porfirio Nazario-Gonzalez, Ph.D.
Primary Patent Examiner
Art Unit 1621

PNG
February 20, 2004